

# Daily Reporter

Since 1908

Greenfield, Indiana

Print

**WEDNESDAY APRIL 30, 2008** :: Last modified: Tuesday, April 29, 2008 5:28 PM EDT

## A few of the Supermileage Challenge rules:

- The vehicle must have a minimum of three wheels touching the ground at all times.
- The vehicle length, width and height will not be regulated.
- The driver's head must be behind his/her feet in the normal driving position.
- Vehicles used in previous events may be used in subsequent events provided that significant modifications acceptable to IMSTEА are made from year to year.
- A vehicle must complete a minimum of three runs to qualify for the trophy, but may make as many runs as the teams desires.



*Speed wasn't the object during the competition O'Reilly Raceway Park on Monday. But Greenfield Central's team showed it could go the equivalent of more than two complete Indy 500s without making a pit stop.*

Source: Indiana Mathematics, Science and Technology Education Alliance

HEAD:

CHATTER:

Derek R. Smith

dsmith@greenfieldreporter.com

G-C team takes a miserly route

Derek R. Smith/dsmith@greenfieldreporter.com

Indianapolis

Disappointment couldn't put the brakes on Greenfield-Central's Super Mileage Challenge team. After encountering some last-minute adversity, the G-C team brought home a first-place trophy Monday at the 13th annual Super Mileage Challenge event in Indianapolis.

"It's very satisfying because we've been working on it for six years," said David Land, a retired mechanical engineer who serves as the G-C team's technical adviser. "So the question is what could possibly do to improve next year, right? Of course, you could always improve the car and get a higher mileage number."

G-C's super-mileage car averaged 1,105.4 miles per gallon to place first out of 26 teams from across the state in the stock class. It marked the first time G-C has won the class after solid performance in previous years.

Driving G-C's super-mileage car for the second consecutive year was G-C senior Josh Sotus.

"I'm lying on my back for 25 minutes at a time with my chin to my chest, so it's a little uncomfortable," he said, adding that the discomfort was worth it in the end. "I'm just really, really excited. We were trying really hard this year."

"It was a really good feeling knowing we'd won after putting all that work into it," agreed G-C sophomore Ronnie Jones, who took lap times and communicated by radio.

The Super Mileage Challenge was held Monday at O'Reilly Raceway Park in Indianapolis. It is sponsored by the Indiana Mathematics, Science and Technology Education Alliance, a nonprofit organization founded in 1990 that's dedicated to improving the math, science and technology skills of all Hoosiers.

Rules for the super-mileage competition are designed to make it fair and safe for all teams.

Race officials give each team a small fuel tank weighted with the same amount of fuel. Each vehicle must complete 10 laps on a distance of 6.25 miles — while maintaining a minimum average speed of 10 miles per hour. Maximum time for a run is 25 minutes.

After a team's run, the officials weigh the remaining fuel to calculate the team's mileage. A team's three runs are averaged to calculate the score.

Thirty-seven Indiana high schools entered about 50 cars in the two classes of Monday's competition. More than 20 entries competed in the unlimited class, which allows engine modifications.

G-C won the stock class, which allows no modifications to the air cooled, four-stroke cycle Briggs Stratton model 9412 engine. Its car has a carbon fiber body and aluminum chassis.

Six team members put a combined total of more than 2,200 hours of work into the car, said Jones, who is in his second year on the team.

The plan was to modify G-C's existing car. Competition rules require a team to make "significant modifications" to an existing car, but what constitutes significant modifications is vaguely defined, Land said.

Each team must have its Super Mileage Challenge proposal accepted by IMSTEAL. Proposals must discuss factors such as aerodynamic drag and friction forces in detail. Teams must later pass a technical inspection leading up to the race.

For the first time ever, G-C's team failed its technical inspection when an official had a problem with the exhaust system.

"We used the same exhaust system we've used the past five years, and unfortunately that was deemed unacceptable," Land said. "We were up until about 11:30 (Sunday) night making modifications."

Modifications changed the exhaust into a chrome exhaust pipe.

This year's G-C team has been well-behaved and were good communicators, Land said.

"We have a pretty in-depth conversation sometimes about the why and wherefore (of engineering decisions)," he said.

Sophomore Thomas Branstetter thinks that working with carbon fiber and competing in the Super Mileage Challenge should serve him well in his future education.

"It was an incredible experience just learning major new things that I had no knowledge of before said. "This sort of just opened it up and made it more of a realization of what it (working in engineering) will actually be like."

Junior Kevin Harding joined the G-C team about two weeks ago and is glad he did. He expected the team to perform well, but was surprised at the fuel mileage they were able to achieve.

"It was a lot of fun, but there was a lot of hard work in there," he said. "It challenged the way that I thought and the way that you do things."

Sotus plans to study at Indiana University-Purdue University Indianapolis, and then transfer to study mechanical engineering at Purdue University.

"It (Super Mileage Challenge) has really allowed me to explore the mechanical engineering field," said.

Team members expect Monday's victory to increase interest in G-C's Project Lead the Way program which has already received significant attention for its achievements.

". . . We can compete at the state level on a very complex project," Land said. "In many ways, this is a collegiate-level project."